

# AN EMERGENCY HOMEMADE ELECTRIC BROODER

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The war emergency has developed a demand for a small brooder adapted to 100 chicks or less. Because of the scarcity of manufactured brooder equipment, a unit which can be made at home, and which requires only materials that are generally easy to obtain, is desirable. The brooder described in this leaflet (fig. 1) has been designed with this in mind. It consists of a wooden hover heated by electric lights which must burn

## The Hover

For 50 to 100 chicks, the hover should be 3 feet square with three lights (figs. 2 and 3); for less than 50 chicks it should be 2 feet square and have two lights. The sides of the hover are made of 1 × 10 inch boards nailed to 1 × 2 × 14 inch legs in each corner. Additional legs are provided which are held to the main legs and hover by bolts equipped with wing nuts. Each



Fig. 1--View of the 100-chick brooder in operation. The circular guard is used only the first 2 or 3 days. Note the feed trough and the waterer, which should always be available.

continuously, since no thermostat is provided. Its successful use will depend to a large extent upon careful supervision and judgment by the operator.

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leg is drilled with five holes 1 inch apart which may be used to lengthen the main legs and raise the hover as required (fig. 4).

The top is made preferably of plyboard; any other type of lumber can be used provided the cracks are tight. With the latter type a good practice is to cover the entire top with building paper held down by lath around the edges. This not only covers the cracks and holes but facilitates cleaning by merely changing the paper.

A curtain is provided around the bottom of the

hover to give added protection against drafts. This curtain should be tacked to the inside of the side walls and should extend down about 2 1/2 inches below the bottom, leaving an open space about 1 1/2 inches between it and the floor. Oil cloth is preferable for this but other material may be used. It should have vertical slits every 3 inches so that the chicks can pass under it easily.

#### Electrical Equipment

The 3 x 3 foot brooder (for 50 to 100 chicks)

is provided with three 75-watt lamps; whereas the 2 x 2 foot brooder (for less than 50 chicks) is provided with two 50-watt lamps. The size of the lamps has been arbitrarily chosen and may have to be increased or decreased according to the conditions under which the brooder is operated. A further explanation of this is given under "Operation of the Brooder." The lamps are located in a straight line under the center of the top and are spaced 6 inches from the end walls and 12 inches apart. Porcelain lamp receptacles having exposed terminals are used to hold the lamps, and

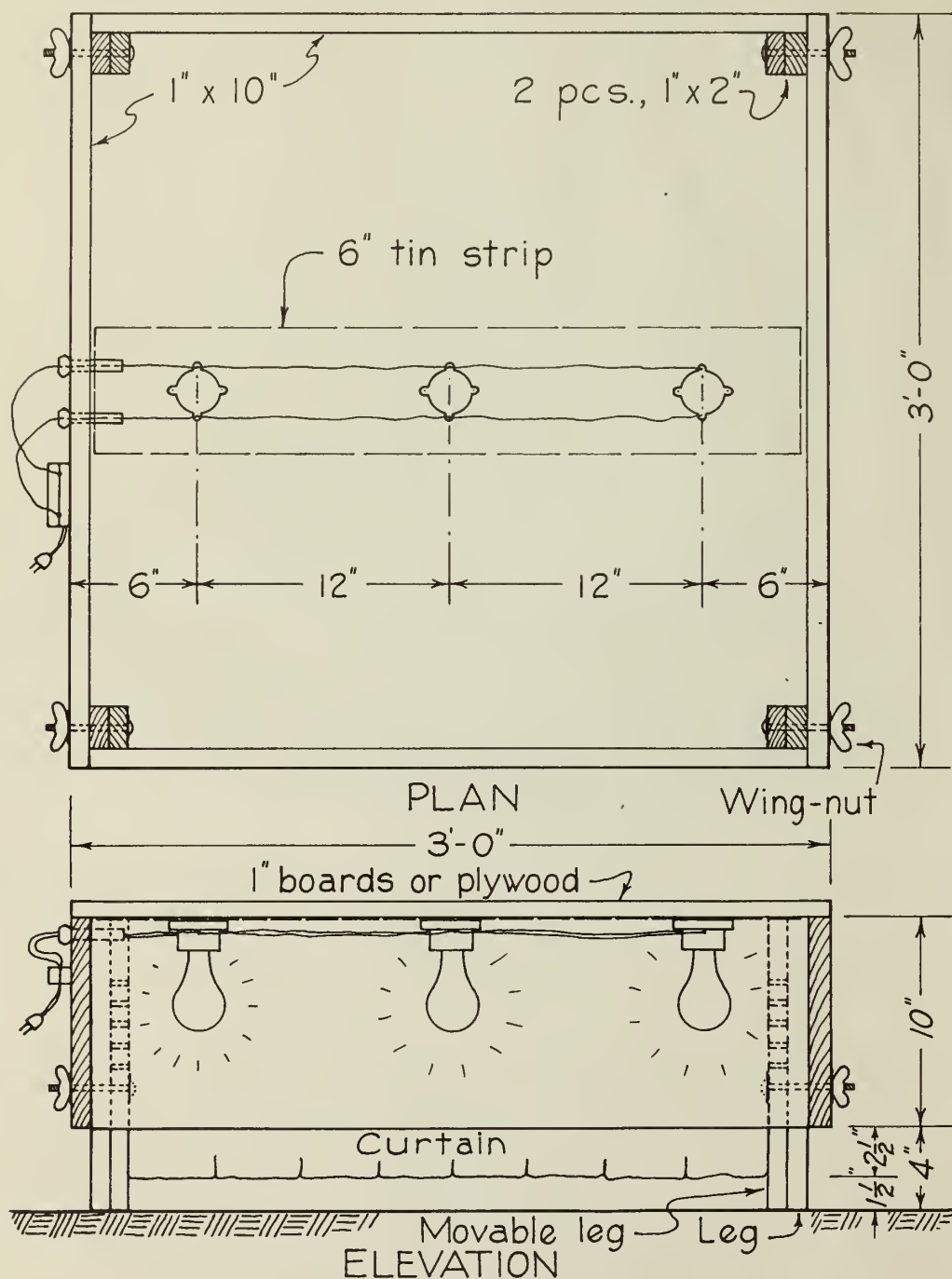


Fig. 2.--Construction plans of 100-chick brooder.

a piece of tin or other bright metal is located above them to aid in reflecting the heat. The wires should be no. 18 or larger, with good insulation, and connected to a plug on the outside of the hover. They should be held in place by a cleat insulator and should be protected by porcelain tubes where they go through the side wall.

#### Operation of the Brooder

The brooder should be located in a building where it is protected from wind and rain. Since



Fig. 3.--View of the 100-chick brooder showing the underside of the hover.

no thermostat is used, the temperature under the hover is controlled by the size of the lamps which may be varied to suit the conditions. The chicks themselves are the best indicator of the proper size of lamp to use. It is good practice to observe them during the coldest part of the day to see how they behave under the hover. If they tend to crowd together near the lights it indicates they are cold and the size of lamps should be increased. If they tend to get as far away from the lights as possible it indicates the lamps are too large, and should be replaced with smaller ones.

As the chicks increase in age and size, they require less artificial heat and more ventilation and head room. It is good practice to install smaller lamps, and to raise the hover by lengthening the legs 1 inch every 10 days or 2 weeks. While reduction of the amount of heat in the brooder can be accomplished by removing some of the lamps, it is recommended that at least two lamps be left in use. This is for safety in case one of the lamps should burn out.

When the chicks are first placed under the brooder it is advisable to confine them to an area within 2 feet of the hover by placing a circular fence or barrier about a foot high around it (fig. 1). This barrier may be made of boards, building paper, or other available material. It should touch the hover at one corner or along one side for the first day to guide the chicks into the brooder. After the first 2 or 3 days it may be removed.

A thin layer of litter such as rice hulls,



Fig. 4.--Another view of the underside of the 100-chick brooder showing the sides. Note the extension legs for raising the hover.

cut straw, shavings, sand, or similar material should be spread on the floor under the brooder and around it. This litter should be kept clean by changing it once or twice a week. It is important to make certain that feed is always available for the chicks, otherwise they may eat harmful amounts of the litter.

The chicks are ready for feeding about 24 hours after they are hatched, at which time they may be placed under the brooder. Chicks received from a hatchery should be placed immediately in the brooder and given feed and water. Feed and clean water should be continuously available.

For the first 2 or 3 days it is advisable to place some mash on a piece of paper, so that the chicks will learn to eat. A regular chick starter mash is then fed for 5 weeks, in small feeders; after that, a growing mash and grain. The chicks may be given fresh green feed when they are a few days old; but care should be taken to have it free of hard, stringy material. Some granite grit or sand may be fed, but no limestone or oyster shell should be given if a good commercial mash is used.



# Material Lists

	100-chick brooder	50-chick brooder
Sides . . . . .	2 pcs. 1"× 10" — 3' 2 pcs. 1"× 10" — 2'10"	2 pcs. 1"× 10" — 2' 2 pcs. 1"× 10" — 1'10"
Top . . . . .	1 pc. 3'× 3' plyboard, or equivalent area of other lumber	1 pc. 2'× 2' plyboard, or equivalent area of other lumber
Legs . . . . .	8 pcs. 1"× 2" — 14"	8 pcs. 1"× 2" — 14"
Bolts . . . . .	4 — 1/4"× 3", with wing nuts	4 — 1/4"× 3", with wing nuts
Curtain . . . . .	4 pcs. 4"× 3'	4 pcs. 4"× 2'
Lamp receptacles . . . . .	3 porcelain, with exposed terminals	2 porcelain, with exposed terminals
Lamps . . . . .	3 — 75-watt	2 — 50-watt
Wire . . . . .	7 feet, rubber-insulated	5 feet, rubber-insulated
Plug . . . . .	1 male	1 male
Insulators . . . . .	1 porcelain cleat 2 — 3" porcelain tubes	1 porcelain cleat 2 — 3" porcelain tubes
Heat reflector . . . . .	Tin or other bright metal, 6"× 3'	Tin or other bright metal, 6"× 2'
Miscellaneous . . . . .	Nails, screws, and tacks	Nails, screws, and tacks